

Abstract

An exhaust gas recirculation system directs exhaust gasses from an exhaust manifold to an intake manifold of an internal combustion engine. The exhaust gasses travel from the exhaust manifold, first passing through a flow control valve and then through a measuring orifice before entering the intake manifold. Pressure upstream of the orifice is used, along with correction pressure downstream of the orifice, to measure and control exhaust gas flow. Further, manifold pressure is determined from downstream pressure and the used along with the measured exhaust gas flow to calculate a cylinder air charge amount.